

THE SIERRA MADRE NEWS

VOL. III.

SIERRA MADRE, LOS ANGELES COUNTY, CALIFORNIA, FRIDAY, DECEMBER 11, 1908.

NO. 10.

ABOUT EVOLUTION OF THE STARS

Prof. J. C. Kapteyn Makes Valuable Contribution to the Popular Literature of Astronomy and the Life History of the Universe as Recently Worked Out.

Herewith is presented one of the most important popular contributions ever made to the general subject of the organization of the universe. Professor J. C. Kapteyn, director of the astronomical observatory at the University of Groningen, Holland, and research associate at the Lick Solar observatory on Mount Wilson, is the leading authority of the world on this popular subject, to which he has devoted the energies of his life.

In the following lecture, delivered last Monday night at Throop Polytechnic Institute, Professor Kapteyn tells about the distribution of the stars in the light of the most recent knowledge. His researches at Mount Wilson during the last few months have shed important light on the subject, and other investigators all over the world are constantly contributing new facts, although none of them so many as Dr. Kapteyn. In this paper the present status of the question is explained, in terms which the layman can understand.

Ladies and Gentlemen: If I had been entirely free in the choice of a subject for this evening's lecture, I might, perhaps, have chosen differently. For a person not making any particular study of astronomy, the subject may not prove to be an easy one. The difficulty, I feel, will be aggravated by the necessity in which I am placed of using a foreign tongue. You will have to forgive me for any blunder or a wrong pronunciation. But I felt that I was not wholly free. In these last years you have been witness to the building of the Mount Wilson Observatory, and your gathering here tonight in such great numbers proves that you take great interest in that institution. Nothing can be more natural, for even now that the observatory is not yet completed it has already done signal service to science by discoveries of the first rank.

You probably all know that the observatory, though a solar observatory, does not intend to confine its work to the study of the sun. Its real aim is: the study of the evolution of the stars, that is of the life history of the stars, and if the sun is given a prominent part in the Mount Wilson investigations it is simply because the sun is the nearest of all the fixed stars and, so, lends itself to study of details, invisible in their numerous other suns, which we call the fixed stars.

Now, I had the honor of being appointed a research associate of this observatory. This may seem strange to those who may happen to know that my astronomical work was in no way concerned with the life history of the stars. And if I have been invited to address you this evening, I felt that you would want to know what then is the line of work prosecuted by myself and the Groninger Astronomical Observatory, which I have to lend, and how does this work bear on the researches of the Mount Wilson Observatory.

To the first question, I may answer, simply: The finding out of the distribution of the stars in space, or, what is often designated as the structure of the universe. Some of the main methods followed will form the subject of the present lecture. It will take all the time at my disposal this evening, so that no

time will be left for the answer. So the second question. Perhaps, too, this second question may be more satisfactorily answered after the work of one or two years. In a general way, moreover, and without any particular explanation, you will as little doubt that there must be a close connection between the distribution of the stars and their evolution, or you will doubt that there is a connection between the evolution of the Anglo-Saxon race and the distribution of this race over the surface of the earth.

The purpose of this night's lecture will thus be to explain how he may hope to find out the real distribution of the stars. Before attacking this problem we have to see what are the elements from which our knowledge has to be built up. I project on the screen a photograph of part of the sky. The picture must recall to you what you can see every clear night in the sky. Very luminous points are intermingled with intermediate and faint points. In order to distinguish the different classes of brightness astronomers introduced some very old times classes of magnitude. We find that already Ptolemy, about the year 150 of our era, called the very brightest stars in the sky, stars of the first magnitude. The very faintest ones, the stars still and just invisible with the naked eye were called stars of the sixth magnitude. The intermediate ones got intermediate magnitudes. This classification of the stars in different magnitudes, which has been substantially retained up to the present time, has nothing at all to do with the real size of the stars as our ancestors thought. The invention of the telescope has done away with that error. Even as seen in our biggest telescopes no fixed star, not even the brightest, can be distinguished from a mathematical point. Not even is here a strong connection between the magnitude and the total quantity of light emitted. For the apparent brightness of a star may only be due to a greater nearness to ourselves.

So, for instance, the star Xcentavin, which shines in the sky of the southern hemisphere, as one of the most brilliant of all the stars in the firmament, is by no means one of the most luminous ones. The apparent brilliancy in this case is due to the fact that, as far as we know at present this star is, among the fixed stars, our nearest neighbor. The magnitude is merely a measure of the brightness as seen from the earth. It would be otherwise if all the stars were placed at one and the same distance. In this case, which, however, is simply a fiction, the magnitude of the stars would be a true measure of the quantity of light emitted. The magnitude which the stars would show if they were brought nearer or farther away in such a manner that all would be brought to the same distance from ourselves, we call absolute magnitude. This absolute magnitude is, therefore, a true measure of the light of the stars. We shall have to revert to it.

It is a curious circumstance that this classification of the stars in magnitude merely in accordance with the impression made on the eye, and assigned without any precise measurements, has proved to be so nearly a rational one. It has been found by the refined thermometer observation of the present time that we receive from the stars of the first magnitude 2.5 times as much light as from those of the second; from those of the second 2.5 times as much

MONDAY MUSICAL CLUB

Schumann Program Given at Home of Mrs. Madden.

The Monday Musical Club held a very enjoyable session at the home of Mrs. James A. Madden, Monday afternoon. The program was in charge of Miss Evelyn Rice, who gave a "Schumann" program. A pleasing feature of the entertainment was the reading before each number on the program of a brief explanatory note of Schumann's characteristics as a musician. The program follows:

Paper "Life of Schumann"
Mrs. Rhea
Piano Duet (a) At the Fountain
(b) Evening Song
Mrs. Stevenson, Miss Stevenson
Piano Novelletten
Mrs. Rhea
Vocal (a) Spring Night
(b) Murmur Not
Miss Cook
Piano (a) Grillen (whims)
(b) Warum (why)
Miss Hill

light as from those of the third, and, so on.

This constant ratio of 2.5 has been used to define scientifically our scale of magnitude, to extend it to telescopic stars, who thus are designated as stars of the seventh, eighth and ninth magnitude, etc., and to establish rigorously what shall be understood by a star of the magnitude 5-1, 5-2, etc. According to this scale the faintest stars, which, up to the present time have been photographed may be about of the seventeenth or eighteenth magnitude. We hope that the 60-inch reflector of Mount Wilson will give us a couple of magnitudes more.

There then is this first difference between the stars—the difference in magnitude.

There is a second difference. I project on the screen the image of another part of the sky, the part in the constellation of the triangle and surrounding constellations. You see that from everyone of the star images starts a line in a certain direction. These lines represent the motion, the change of place of the stars in 25,000 years as they have been determined by the most accurate measurements during the last century and a half.

The fixed stars do not deserve their name. Recent observations have shown that they are all in motion, only this so-called proper motion appears to us so small as to make you realize somewhat the dimensions of the universe and the consequent difficulty of our problem. These motions which to us appear so small that since the beginning of our era there is no perceptible change in the relative positions of the stars, are not small in reality. They only appear so small on account of the inconceivable distance which separates us from them. In reality the average velocity of the stars is about just one hundred times greater than the velocity of sound, a velocity that would carry them around the whole of the earth in twenty minutes, a velocity as compared to which the velocity of a cannon ball is as nothing.

The distance of the stars is such that even this velocity cannot make itself appreciable to our eye but, after the lapse of thousands of years. It is the immensity of these distances which make our problem so difficult. This leads us to the third of the elements on which depends our knowledge of the

(Continued on 5th Page.)

ANNIVERSARY CELEBRATED

Local Christian Endeavor Society Observes Twentieth Year of Existence

Making the twentieth anniversary of the founding of the Christian Endeavor society of the Congregational church, special services were held Sunday evening and a social gathering was given on Tuesday evening at the church. At the Sunday evening meeting the leader was Miss Gertrude Cook and the regular form of the society's meetings was observed. There were a number of visitors from Los Angeles and Pasadena who were members of the society in the past, as well as many local residents who have not been active in the society for some time. The roll was called alphabetically and all members, old and new, were given an opportunity to take part, which most of them did, adding greatly to the interest of the meeting. The choir sang several selections from the old Gospel Hymns No. 5 which was used when the society was organized. Mrs. J. C. Dickson read a history of the society from the beginning, which contained much information of interest to those present.

On Tuesday evening a varied program was rendered under direction of Miss Etta Dickson. It consisted of three parts, literary, historical and religious, interspersed with musical numbers. Mr. N. H. Hosmer had been invited to tell something of the early history of the town of Sierra Madre. His remarks, while making no reference to the history of the society, were listened to with close attention. Miss Elsie Caskey told of the present condition of the society and Mr. F. D. R. Moote and Mr. Ralph Brown spoke briefly concerning some things that might be attained. Miss Garber of Los Angeles gave a reading. The program was followed by a social hour and refreshments.

M. H. BRIDLE IN HOSPITAL

Mr. M. H. Bridle is sojourning at the California hospital, Los Angeles, where he went to have an operation performed for an affection of the ear. His many friends are hoping he will be out soon, and meantime indulging in good natured speculation as to whether or not the affliction is the result of the patient being "on his ear" too much. If they did not know him so well there might be ground for thinking that to be the case.

HATHAWAY'S STORE SOLD

F. E. Hathaway has disposed of his furniture store to Mr. C. Olsen, who will take possession next week. Two things speak well for the purchaser of the business, first his name, an second, the fact that he is from Iowa. If he makes as substantial and worthy a citizen as the rest of the Sierra Madre Olsens nobody will find any fault. He has been in business in Los Angeles for some time but expects to make Sierra Madre his permanent home.

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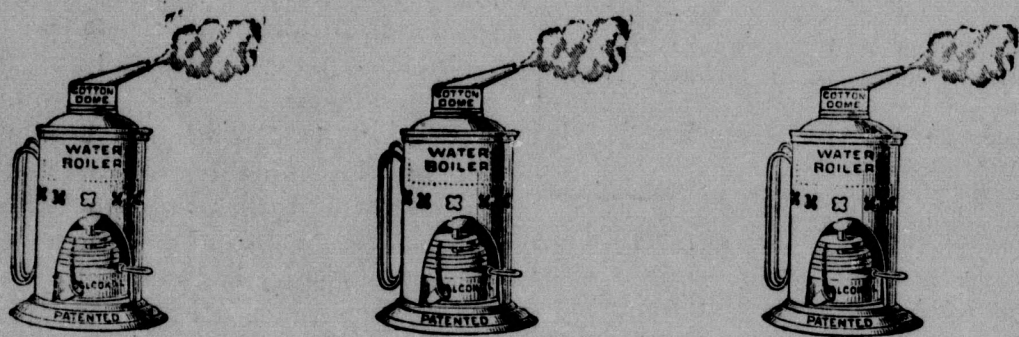
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TECHNOLOGY CLUB AT PEAK

Prof. Hale Entertains Alumni of Mas-
sachusetts Institute of Technology

The Technology Club of Southern
California composed of graduates of
the Massachusetts Institute of Tech-
nology, was entertained by George E.
Hale, director of the Carnegie Solar
Observatory, with a dinner at Mount
Wilson hotel Saturday evening and
spent Sunday morning inspecting the
plant of the observatory.

A business meeting was held, and the
officers formally re-elected for the
coming year. W. T. Knoulton is presi-
dent and H. A. Prime, secretary.

The members are R. B. Pendergast
of Chicago; C. F. Cooke, Los Angeles;
Edward L. Maybury, Long Beach; L.
A. Parker, Los Angeles; Llewellyn
Bixby, Long Beach; Robert D. Far-
quhar, Santa Monica; Edward John-
son, Los Angeles; C. F. Milliken, Los
Angeles; John A. Osgood, Sierra Ma-
dre; W. K. Gaylord and I. C. Gaylord,
Pasadena; H. A. Prime, Los Angeles;
E. C. Stanton, W. T. Knoulton and J.
W. Johnson, Los Angeles.

Greetings were sent by the society
to President McLaurin, the new chief
executive of the Massachusetts Insti-
tute of Technology, and also to Prof.
Noyes, who has for some time been
acting president of the institute.

FOR PIANO FUND

School Children Will Give Entertain-
ment Friday, December 18

One week from this evening, Friday,
December 18, an entertainment will be
given in the Town Hall by the children
of the Public School. The proceeds
will be devoted to the piano fund, the
school piano having been purchased on
the installment plan. The teachers have
the program in course of preparation
and a fine evening's entertainment is
promised. The program will begin at
7:45, promptly.

Notice to Creditors.

Estate of Ida A. Stadler, deceased.
Notice is hereby given by the under-
signed, Phillip Stadler, administrator
of the estate of Ida A. Stadler, de-
ceased, to the creditors of, and all
persons having claims against the
said deceased, to exhibit the same
with the necessary vouchers, within
four months after the first publica-
tion of this notice to the said Phillip
Stadler, administrator, at his resi-
dence, number 3926 Trinity avenue,
city of Los Angeles, in the county of
Los Angeles.

Dated this 4th day of December, A.
D., 1908.

PHILLIP STADLER,

Administrator of the Estate of Ida A.
Stadler, deceased.

JAMES A. MADDEN,

Attorney for the estate.

NOTICE OF ANNUAL MEETING

Notice is hereby given that the an-
nual meeting of the stockholders of
The First National Bank of Sierra
Madre, Cal., will be held on the bank-
ing rooms of said bank, Tuesday, Jan-
uary 12th, 1909 at 4 o'clock p. m. for
the purpose of electing directors for
the ensuing year and the transaction
of such other business as may law-
fully come before the meeting.

H. G. FLINT, Cashier.

Just as I Told You

material has raised and
it will go still higher.
Don't waste your time
but get busy and build
now. You will save
money.

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and the

Sierra Madre News

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The Pacific Garden is without doubt the best garden magazine obtainable for Southern California. The various articles are written in a readable way by experts who know their subjects thoroughly. The monthly calendar shows in concise form what should be planted and what plants need attention. The magazine is printed on fine book paper and is well illustrated, making it exceedingly attractive to all who are interested in gardening.

Brief Items of Interest

Miss Hazel Hill was the guest of friends in Los Angeles the latter part of the week.

Mrs. Eleanor Woodger, who for a few months has been at Highland Park, has returned to her home here, on Auburn avenue.

Mrs. Street, wife of Lieut. C. R. Street of Sunnyside avenue, has been seriously ill with gastritis, but is now reported convalescent.

Dr. Lewis Test, who occupies the chair of chemistry at Occidental college was the guest of Mr. and Mrs. Elwood Stanton Saturday.

Mrs. George Edward Mungler, who arrived recently, will receive each first and third Thursday, with her mother, Mrs. George H. Letteau at the home of the latter, "El Mirador."

Mrs. Frank Wright was pleasantly surprised last week by the arrival from Chicago of her brother-in-law, Mr. Lewis J. Wright, Mrs. Wright and Mrs. Kinney, who remained with her till the first of this week.

Mrs. Wickersham, wife of the late W. B. Wickersham, who was for thirty-six years secretary of the Chicago Library Association, and his mother, Mrs. Strong, were Tuesday guests of Mr. and Mrs. C. H. Perry.

A party of mountain climbers, consisting of Mrs. Phillip Carter, Mrs. Robert Camp, of Los Angeles and Miss Mae Fox made the ascent of Mt. Wilson Monday. They remained at the summit until Wednesday and experienced the exhilarating delight of a genuine snow-ball fight.

Dr. John Curran of Los Angeles was the guest Sunday of Messrs. Charles and Richard Fox.

Mrs. Marie Riedeselle, more popularly known as "the hermitess" of the Big Santa Anita canyon, was the guest Tuesday of Mrs. M. B. Brownson.

William J. Schloeder of Chicago has located in Sierra Madre and is at present at the home of his friend, Mr. Pete Schmitz of Hermosa avenue. He is also a friend of Father Barth in the east.

Marshall Wright is fast gaining a reputation as a trapper. He has trapped three coyotes and had their pelts tanned. On Wednesday he trapped a handsome grey fox and will have it mounted as a trophy of his prowess.

Mr. Paul Reinwald, the celebrated Austrian mountain climber, made the run from Los Angeles to the home of Mr. Richard Fox on Mountain Trail avenue last Sunday in two hours. He will enter the Marathon race on New Year's day between Los Angeles and Long Beach.

For discerning music lovers the Monday Musical club has planned a rare musical treat, when on the evening of January 27 Mrs. Tupper, a reader from Los Angeles, will give Myrtle Reed's excerpts from "The Love Letters of a Musician." She will be accompanied by a pianist, also a violinist. A great deal of thought has been given to the proper setting for this exceptionally fine entertainment, which will be at the home of Mrs. C. H. Baker.

**PHONES INSTALLED OR CHANGED
SINCE LAST DIRECTORY.**

Green 57 Clark C. Merton, Res. Ramona
Green 1 Graham, Miss T. H. N. Lima
Green 63 Martin, W. R., Res. Mt. Trail
Red 30 Maher, Robt., Res. W. Granite Hgts.
Black 37 E. N. & E. W. Mead, Res. S. Baldwin
Black 1 Searles, Dr. W. G., Res. El Reposo
Blue 33 See, Robt. T., Res. W. Carter Ave
Red 1 Ragsdale, J. C., Res. Grove & May sts
Green 61 Street, Liew C. R., Res.
..... Highland & Sunnyside
Red 7 Towne, S. D., Blacksmith. Mariposa
Blue 15 Zaiser, Mrs. H. E., Res.
..... Baldwin & Laurel
Blue 62 Rasmussen, J. D., Res. La Belle
Red 28 Davenes, H. E., Res. Blumer Tract
Blue 68 Maginnis, A. R., Res. Wilden

How He Advertised

Wife—"Be sure to advertise for Fido in the morning newspapers."

Next day the wife read as follows in the newspaper:

"Lost—A mangy looking lapdog, with one eye and no tail. Too fat to walk. Answers to the name Fido. If returned stuffed, large reward."—Philadelphia Inquirer.

Home, Sweet Home

"Yes, suh," said Brother Dickey, "my race what wants to live in Illinois kin go dar, how an' w'en dey likes, but ez fur me, I'll stay whar I is—'mongst de folks I raise an' bo'n wid, an' ef I is lynched, please God, I'll be lynched by my fr'en's!"—Atlanta Constitution.

There was started a movement to have the kilts of a certain one of the British "Highland" regiments discarded in favor of ordinary trousers.

The colonel is the descendant of a long line of Scotch lairds and strives earnestly to uphold the old traditions.

The sergeant who took the census of the regiment finally appeared with his report.

"All the men, with the exception of three, are in favor of the change, sir," he said.

"Indeed!" the colonel said. "Tell me the names of these three true clansmen. They shall be promoted."

"They are, sir," he said, "Patrick Doolan, Hans Steinbrenner and Moses Isaacs."

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SIERRA MADRE NEWS

GEORGE B. MORGRIDGE
Editor and Publisher.

Published Every Friday in Sierra Madre, Los Angeles County, California.

Entered as second-class matter, November 8, 1906, at the postoffice at Sierra Madre, California, under the Act of Congress of March 3, 1879.

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FRIDAY, DECEMBER 11, 1908.

BY THE WAY

Still time for a little early shopping.

Also time to do all your shopping in Sierra Madre.

If your stock of Christmas spirit—thinking of the other fellow—is running low now is the time to stock up.

Sunday baseball in Pasadena got a body blow when the city council refused to close a street for the benefit of the baseball park.

Most of the editors of the country would think it the best Christmas of their lives if their subscription accounts were all brought down to date.

The News has received a copy of the improvement edition of the Oxnard Courier, with finely illustrated eight-page supplement. Oxnard and Ventura county are evidently advancing with the rest of Southern California, judging by the showing made. The big industry at Oxnard is beet raising and sugar-making. A full-page illustration is devoted to the plant of the American Beet Sugar Co., of which Col. J. A. Drifill, well known to several Sierra Madre people, is manager.

There is also an illustrated article about the Ventura County Power Co., of which Col. Drifill is president and Mr. Harry Staples, son of Mrs. Alice Staples of Sierra Madre, is manager and also a director. When in Sierra Madre recently Mr. Staples said Ventura county was fairly reeking with prosperity and the farmers had so much money they didn't know what to do with it.

Don't cuss the printer man for all the errors you see in the paper. He sees them before you do—when it is too late to correct them—and they disturb him a great deal more than they do you. The difference is that he is

probably able to account for them, even though no one in particular was to blame for them, while the gentle reader can see nothing in the whole article but drivelling nonsense and thinks it is just about typical of the editor's brain product. The editor really knew what he intended to say, but life is too short to waste much time in explanations and unless the type has made him do someone an injustice he is willing to let it go in the hope that other people will be as charitable in their criticism as they expect him to be.

Arguing that the moral effect of the proposed stage coach hold-up at the Tournament of Roses would be bad, the Pasadena Shakespeare club has requested the tournament association to substitute some less objectionable event. The effect on the minds of children is the thing most deplored by the club members. With the letter of protest was enclosed a check for \$25 as an unconditional contribution from the club. That is the spirit in which the most effective criticism is offered touching upon the management of public enterprises. The man who stands aloof and knocks deserves more contempt than respectful attention. The man who puts his shoulder to the wheel and does his part has a right to be heard on matters of policy in the management.

LOCAL HISTORY

Preservation of local traditions tends to give any community individuality. Too often the recording of local history is left to the indefinite future with the result that much of it is lost because of the death or removal of those best able to tell the story of the early days of the community.

So far as Sierra Madre is concerned there is an abundance of material which would make interesting reading if put into proper form. The town did not just happen and then continue to grow like Topsy. The story of the early days would read like romance and the subsequent development would be no less interesting if proper light were given all the factors entering therein.

It is not too early and may soon be too late to gather much of this material first hand. Many times it has occurred to the writer that something should be done at least toward gathering data for some sort of permanent record. The reminiscent remarks of Mr. N. H. Hosmer at the Congregational church last Tuesday evening brought the matter to mind once more. Of all people now living, Mr. Hosmer is probably best able to tell the story of the first two or three years, and as well able as any to tell of the later years. However, there are many other who could contribute materially to the interest of the story. In conversation with the writer, Mr. Hos-

mer stated that he had had something of the same idea in mind and thought that by all means the thing should be got under way in the near future. It may be possible to interest others and secure the co-operation of those best qualified to furnish material, and thus prevent the loss of much valuable information. The history need not be put into book form, but should at least be kept in some permanent form at the public library.

Old-Fashioned Plum Pudding

The housewife often pauses in dismay at holiday time, when she desires a genuine old-fashioned plum pudding, and finds all her cook-books calling for pound proportions. The following is reduced from a famous old recipe, and will fill a four-pound mold, holding enough for six or eight people.

One-half cupful butter, three-fourths cupful sugar, one-fourth pound suet, chopped fine, two and one-half

cupfuls flour, one-half pound seeded raisins, one-half pound currants, one ounce citron, teaspoonful finely chopped orange and lemon peel (candied) one-fourth cupful chopped nuts, three eggs, beaten separately, one-half cupful milk, one-fourth teaspoonful ground cloves, mace and nutmeg. Cream, butter and sugar, beat in yolks, add milk, then flour alternately with whites, beaten stiff, then spice, and lastly add the fruit, dredged with flour. Put in well-greased mold, tightly covered; steam five hours and serve with either liquid or hard sauce.

Inconsequent.

I sometimes think it hardly fair That I am here while you are there. Still I am perfectly aware You might come here or I go there. And I would just as soon be there. Or here; or have you here or there. So I suppose I scarcely care; In fact, it's neither here nor there.

—Canadian Magazine.

DIRECTORY CITY OFFICIALS, SOCIETIES, CHURCHES, ETC

CITY GOVERNMENT.

Trustees—
C. W. JONES, Chairman.
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N. H. Hosmer, J. C. Pegler.
Treasurer—L. C. Torrance.
Clerk and Assessor—J. A. Madden.
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Attorney—Walter Haas.
Engineer—C. O. Mansur.
Chairman Board of Health—Dr. R. H. Mackerras.
Trustees meet in the City Hall, Kersting block, on Central avenue, second and fourth Thursdays of each month at 7:15 p. m.

BOARD OF TRADE.

President—J. W. Keys.
Vice President—A. S. Mead.
Secretary—M. H. Bridle.
Treasurer—W. S. Andrews.
Directors—J. W. Keys, A. S. Mead, C. W. Jones, M. H. Bridle, C. S. Kersting, J. J. Graham, W. S. Andrews.
Regular meetings second Monday in each month.

CIVIC LEAGUE

President, M. W. Copps.
Vice President, J. C. Dickson.
Secretary, L. Dietz.
Treasurer, Dr. W. P. Hatfield.
Regular meetings fourth Tuesday of each month.

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President, Mrs. Charles E. Bentham.
First Vice President, Mrs. George H. Lettau.
Second Vice President, Mrs. M. W. Copps.
Secretary, Mrs. Frank Wright.
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Meets second and fourth Mondays.

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H. J. Potter, president; Mrs. L. C. Torrance, vice president; W. E. Bechtelheimer, secretary; Mrs. George Lettau, treasurer; L. C. Torrance, auditor.

There are over 2,700 books in the Library, and the Reading Room tables are supplied with all the leading magazines and periodicals.

Membership in the association is open to any person of full age on payment of an annual subscription of two dollars or a single life subscription of twenty-five dollars. A monthly subscription of twenty-five cents entitles the subscriber to the use of the Library, but does not qualify such subscriber as a member of the Association. The Library is open eight times each week, viz., on Monday, Tuesday, Wednesday, Friday and Saturday afternoons from 3 till 5, and Monday and Thursday evenings from 7 till 9 o'clock. The reading room will also be open Sunday afternoons.

CHURCH NOTICES.

FIRST CONGREGATIONAL CHURCH—Rev. James M. Campbell, D. D., pastor. Sunday School, 9:30 a. m.; morning service, 11 a. m.; Christian Endeavor, 6:45 p. m.; evening service, 7:30 p. m. Strangers are cordially welcomed.

The Ladies' Aid Society holds its business meetings on the first Tuesday of every month, at 3 p. m. Afternoon socials on the second and fourth Tuesdays, from 3 to 5 o'clock.

The Woman's Missionary Society meets on the third Tuesday of the month at 3 p. m.

CHURCH OF THE ASCENSION (Episcopal)—Rev. Charles E. Bentham, rector. Sunday school, 9:45 a. m.; morning prayer and sermon, 11 a. m.; evening prayer and sermon 7:30 p. m.; celebration of Holy Communion, first Sunday in month, at 11 a. m.; third Sunday in month, 7:30 a. m.; Saints' and Feast Days, 10 a. m. All seats are free. A cordial invitation is extended to strangers.

ROMAN CATHOLIC services Sunday morning at 8:30 o'clock at Chapel, corner Baldwin and Olive avenues. Rev. M. W. Barth in charge.

CHRISTIAN SCIENCE services every Sunday afternoon at 3 o'clock, Town Hall, corner Baldwin and Central. All are cordially invited.

THE MAIL.

ARRIVES... 10:15 a. m. LEAVES... 8:00 a. m.
6:06 p. m. 4:30 p. m.

POST OFFICE HOURS—Delivery, 7:30 a. m. to 7:15 p. m. Money Order, 7:30 a. m. to 7:00 p. m. Lobby open Sundays 8 a. m. to 4 p. m.

CABOT YERXA, Postmaster.

TIME TABLES

PACIFIC ELECTRIC RAILWAY

Leave Los Angeles	Leave Sierra Madre
6:05 a. m.	6:10 a. m.
6:25* "	7:00 "
7:05 "	7:42* "
8:05 "	8:10 "
9:05 "	9:10 "
10:05 "	10:10 "
	11:10 "
	6:10 "
	6:30 "
	7:05 "
	10:05 "

*Combination express and passenger service.

SANTA FE ROUTE

Santa Anita Station

Arrive from Los Angeles and Leave for East:

8:32 a. m. Overland | 5:12 p. m. Local
9:13 a. m. Local | 8:41 p. m. Overland
10:38 a. m. Limited

Arrive from East and Leave for Los Angeles:

7:34 a. m. Overland | 4:56 p. m. Local
9:13 a. m. Local | 5:12 p. m. Limited

HOLIDAY GOODS FOR THE CHILDREN AND FOR ALL

Brass Doll Beds
Little Red Carts
and Wheelbarrows
"Shoofly" rocking horses
Wagons and coasters
Collapsible go-carts

Writing Desks
Rocking Chairs
Library Tables
Rugs
Princess Dressers
Base Ball Goods

Come and see what we have. We also sell Complete House Furnishings, Kitchen Goods, Bedding, Crockery, Etc., at or below city prices.

F. E. HATHAWAY
FURNITURE, Phone Black 36

Feet Dry?

Now is the time to find out if your boy's feet are dry. If not, buy a pair of our oil tan shoes, prices from \$2.50 to \$3.50. Just the thing for wet weather. Nap-a-Tan shoes for men and boys cannot be excelled. Rubbers, boots and oiled clothing are necessary for winter weather also.

For Christmas any man would like a pair of nice house slippers. We also have pretty felt slippers for ladies.

We will observe our old custom of giving a Christmas present with every pair of shoes bought here in December.

M. OLSEN *the Shoe Man*

EXTRA TROUSERS

With each suit of clothes purchased of me before the first of the year I will give a **FREE PAIR OF TROUSERS**. Can you beat this offer anywhere, quality considered?

AUGUST EKLUND, The Home Tailor

Established
Twenty-five Years

Home Phone Black 11
Sunset Phone Pasadena Main 8556

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Carriage to and from Electric Cars.

Public Bus Line

Express

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*Pittsburg Perfect Field Fence
Ellwood Lawn Fence
Union Lock Poultry Fence*

—THE—

L. W. Blinn Lumber Co.

Phone Black 23

EVOLUTION OF THE STARS

(Continued From 1st Page.)

structure of the universe—the distance. After what I said just now, you will not wonder that, whereas we know—the magnitude, at least with moderate accuracy for hundreds of thousands of stars and the proper motion for many thousands, we know relatively little about the distances. What we know comes to this: (a) The individual distance of about a hundred stars; (b) the average distance of any fairly numerous group of stars of which we know the magnitude and the proper motions.

How did we come to know these? I feel a great temptation in explaining, for it constitutes a real and important (in fact the most important, part of our problem. But I would never finish at a recent time if I did. Let me say only this: Little as it is, the acquisition of this knowledge has cost three-quarters of a century of hard and skillful labor of many of our ablest astronomers.

Having now considered the elements, magnitude, proper motion, distance on which the solution of our problem rests, let us now consider the problem itself, and, to begin with, let us first consider the apparent distribution of the stars. If on a clear night we look up at the sky, we see numberless stars, as it were, attached at a hollow sphere, the sphere which we call the celestial sphere. The ancients really and, not unreasonably, thought that there really was such a sphere to which the stars were attached. It was one of these crystal spheres which by rolling over each other produced that heavenly music known as the harmony of the spheres. We know better. We know that in reality the stars are at enormously different distances. But we now speak of appearances and certainly it seems as if all the stars were attached to a hollow sphere. Along a great circle of that sphere we see a faintly luminous belt which spans the whole of the firmament as a girdle of gems. To see it as a girdle of gems we have to use a telescope, however. For the telescope, even a very moderately powerful one, will show that this girdle is built up of numberless stars. In a big telescope the number of stars seen is stupendous. Of some parts we have photographs, which, on an area as that covered by the moon, show three times more stars than can be seen by the naked eye on the whole of the visible night sky. On both sides of the Milky Way, the apparent crowding of the stars diminishes gradually and regularly, till, near the poles of the Milky Way we come to the poorest parts of the sky.

The question stands about as it would with a very first investigation of the climate on our earth. A very first study will handle the difference between the climate in the torrid, temperate and frigid zones, that is, it will only consider the changes with the latitude, leaving local deviations, varying with the longitude for a more detailed study.

Now, let us pass to the consideration of the real distribution of the stars. The real difficulty then lies in the imperfection of our knowledge about the distances. I have mentioned just now what little we know about them. The question is can we make that little do for our wants. I think we can. The fact is that we do not so much want to know everything about every star. It will be sufficient to know how many of them stand at such and such a distance. In the same way, though we are unable to assign the real light power, or what comes to the same, the absolute magnitude of each star, we may be still able to find the time proportion in which powerful luminaries, say 1000 times more powerful than our sun, occur in nature as compared with less powerful luminaries as our sun. For in the finding out of such proportions consists our problem of the nature of the star-mixture.

The method followed may, perhaps, best be explained as a sorting process. Suppose that we investigate only the stars of the second and third magnitudes down to the eighth. (To not include the first, their number is so excessively small.) Let every star be represented by a little card on which are inscribed both the magnitude and the proper motion, and also, for the few cases where that is possible, the distance of that star.

We can make a first, rough, arrangement according to distance. I have done that in the figure thrown on the screen. The stars of the second magnitude, or where their representative ends have been all placed in one and the same box. There are forty-six of them in the whole of the sky. The same has been done with the stars of the third, fourth and eighth magnitude. The numbers on

(Continued on 8th Page.)

YOUR NEAREST GARAGE

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A. L. RYDER

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Ladies' and gents' clothes cleaned and pressed. Fine silks, laces and woolen goods a specialty.

All work guaranteed first class.
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Professional and Practical

House Painter, Art Decorator, Etc.
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ALL KINDS OF SIGN PAINTING.

MRS. M. L. ROTH

GOWNS

Grand View Avenue, Near Auburn
Phone, Blue 30

Just received, three carloads of hay. Lay in a supply before it advances.
Sierra Madre Feed & Fuel Co.

See F. H. Jewell for plans and estimates on building.

Choice Property
— IN —
Beautiful Sierra Madre
The Ideal Summer and Winter Resort
Elevation 1,000 to 1,700 Feet
The terminus of the most beautiful division of the Pacific Electric Railway.
Situating most beautifully on the Foothills of the Sierra Madre Mountains.

INSURANCE - - NOTARY

Sierra Madre Realty Co.
See us about it. Phone Black 22. Sierra Madre, Cal.

WANTS

and
Classified
Advertising

All advertising under this heading and reading notices charged for at the rate of five cents per line for each insertion.

This column has proved of value to others. Profit by their experience.

FOR SALE

FOR SALE—75-gallon galvanized iron tank, suitable for gasoline or water. \$3.75. A. S. Mead. tf

FOR SALE—Blue Andalusian settings at \$1.50 for 14 eggs. Non-setters and good layers. Bannatyne, Canyon avenue. 10*

FOR SALE—Commercial size linen finish writing paper, 100 sheets for 30 cents. Envelopes to match, 2 bunches for 15 cents. News Printery.

FOR SALE—Singer sewing machine. F. C. Lehmer, Central avenue, 2nd house W. of Hermosa. tf

FOR SALE—18 fine pullets and 6 laying hens. Chas. W. Burrell, N. Lima, above hotel. tf

LOST AND FOUND.

LOST—Long black seal collar, last Monday at P. E. station. Reward for return to Stickney's store. 10*

FOR RENT

FOR RENT—Furnished 6-room cottage with sleeping porch and modern conveniences, barn and fruit trees. J. A. Ogood, Esperanza ave. Blue 17.

It was an awfully old joke, but the American thought it might cause his English friend to generate a smile. "Just before I sailed for Liverpool," said the American, "I dreamed that I was dead, and the heat woke me up." "So?" rejoined the Englishman, seriously. "The weather must be beastly hot in America."

I am going after a load of apples next Monday. Let me know if you wish any. E. W. Mead. Black 37 or Black 42.

BRIEF ITEMS OF INTEREST

Mr. and Mrs. R. S. Jensen of Los Angeles attended the C. E. anniversary exercises and visited Mr. Jensen's mother, Mrs. Amelia Jensen.

Misses Florence and Lulu Bixby and Mr. William Bixby of Pasadena attended the Christian Endeavor exercises Sunday and Tuesday evenings.

Why buy walnut shells for Christmas? In best nuts only one-third are meats. I sell fancy, whole meats at 30c a pound; medium whole 25c; broken mixed 20c. A. A. Rice, Blue 11.

Next week at Bechtelheimer's drug store a demonstration will be conducted to show the merits of the Simplex Vapor Spray lamp, a new device for treating diseases of the throat and lungs. It is claimed that the treatment is far more beneficial than any other known. It is not a patent medicine but is a device for applying effectively the medicines prescribed by physicians.

Magazines and novels at Doucet's.

He (at the opera)—Just going out for a little fresh air, my dear. She—A slight draught, you mean, I suppose.

Why not send the News to some friend or relative in the east for a Christmas present? Until the first of the year we will renew the offer made last year under the terms of which any fully paid up subscriber to the News can send the News to any friend in the east for a year for one dollar. The only conditions are that the subscriber taking advantage of it must be fully paid up to date and the new subscription must be for some person living outside of California. The News will tell them what is doing here and reflects somewhat intimately the sort of life we lead in sunny California. It may be the means of bringing some of your friends out here. Why not try it?

Once a thrifty Scotch physician was called to a case where a woman had dislocated her jaw. He very soon put her right. The woman asked how much was to pay. The doctor named his fee. The patient thought it too much. He, however, would not take less, and as the woman refused to give him the fee, he began to yawn. Yawning, as every one knows, is infectious. The young woman, in turn, yawned. Her jaw again went out of joint, and the doctor triumphantly said: "Now, until you hand me over my fee, your jaw can remain as it is." Needless to say the money was promptly paid.

Central Market and Postoffice Store

If You Want a Choice Article in Meats and Groceries, Call Black 6

We carry a fresh supply of fish every Friday; also oysters. Give us a trial for poultry. We have

Hens.....20c Fryers.....24c
Roosters.....22c Broilers.....28c

Also turkeys at 28c alive

Shoulder lamb.....10c Shoulder mutton..... 8c
Rib roast.....12½ and 15c Prime roast.....15c and 18c
Brisket, rolled.....10c Sauerkraut, per lb.....10c

COAL! COAL! COAL!

WOOD AND KINDLING

AGENT FOR THE

Celebrated Black Diamond Coal

HAY, GRAIN AND FEED OF ALL KINDS
POULTRY SUPPLIES. FEED STABLE

ANDREW OLSEN

SUFFOLK AVENUE

PHONE, BLACK 24

Call us up if you wish Prompt Delivery

HOTEL SHIRLEY

solicits high class tourist and local patronage.
First class accommodations at reasonable rates.

Under New Management

Special attention will be given to patrons desiring meals by the week. Give us a trial. We are here to stay and will please you if courteous service and pleasant accommodations can do it.

E. B. VanZANDT, Prop.

SIERRA MADRE FEED AND FUEL CO.

J. C. WHYTE, Mgr

Hay, Grain, Feed and Poultry Supplies
FUEL OF ALL KINDS

Prompt Delivery

PHONES, Home, Black 50; Sunset, Main 8611

Office and Warehouse, Public Scales, Lima Street, Near Central.

Exclusively Fuel and Feed Dealers

OUR HOLIDAY SUGGESTIONS

What are you going to give the wife and children for a Christmas gift? Something that looks very nice and all that, but in a weeks time is either worn out or forgotten? Let us make a suggestion: Why not mix some good horse sense with your giving and let your remembrance be a practical, life-long benefit.

SUGGESTION NO. 1

What could make a better Christmas gift than a good Sierra Madre lot? You can get them for \$350 and up, on very easy terms. Some of them have street work done, taxes all paid and absolutely no expense in sight for a twelve-month.

The chances are that the money you would put into this proposition is not even drawing interest and in that case should by all means be invested. Supposed, though, you are getting seven per cent on \$400 and can be induced to invest this same \$400 in a lot. Your lot would have to advance in value less than \$35 a year to pay all taxes and still net you seven per cent. And here's a quiet tip:

WE HAVE SEVERAL LOTS LISTED NOW THAT WE CAN SELL YOU AT 25 PER CENT BELOW VALUE. SEE THE CHANCE TO BETTER THAT SEVEN PER CENT INCOME?

SUGGESTION NO. 2

Maybe you have not the amount of money required to buy a lot just at present, but still feel that something should be invested for future contingencies. Why not buy a share of preferred stock of the Golden State Portland Cement Co., at \$100. With this you get one-half share of the

common stock as a bonus. On the preferred stock there is a semi-annual dividend of $3\frac{1}{2}$ per cent—just as good as a loan. In two or three years the preferred stock will be cancelled at par and the common stock will draw all the dividends. Let us explain this more in detail. The history of cement plants has shown an annual profit of 20 to 50 per cent on all stock. These are some of the reasons why we suggest for a Christmas present a block of stock now paying 7 per cent with every indication of higher dividends to follow.

SUGGESTION NO. 3

But perhaps you have not the money handy for either of these propositions. Then what is the matter with a \$1,000 life insurance policy? Remember that we represent one of the most conservative insurance companies in the world, in fact one of the very best. The rates, conditions and form of policy of the Penn Mutual Life company of Philadelphia will stand favorable comparison with any. Such a gift as an insurance policy will not only please the wife now but will be of great value to her when you can no longer provide for the daily needs. This sort of a gift will not break, wear out or decrease in value like most of the things that are bought at no less expense. Any sane man can see the value of such a Christmas present.

A. S. MEAD

Real Estate - Rentals - Insurance - Notary

First National Bank Building, Opposite P. E. Station

Phones: Home, Black 42 and Black 69

Sunset, Pasadena Main 9623

NEW GOODS ARRIVING DAILY

MONDAY IS THE DAY WHEN YOU CAN GET CHRISTMAS CANDLES FOR 10 CENTS A BOX, ALL SIZES. REMEMBER THE DAY—MONDAY ONLY CHRISTMAS TREES

Order your Christmas trees here. We can supply you with any size you wish. Order early before the best ones are gone.

And when you arrange for your tree just notice our decorations—everything to make the tree pretty, glass ornaments, tinsel, artificial snow candle holders and all the other things that make Christmas real.

For decorating the rest of the house we have Christmas bells, balls and other tissue paper ornaments. Our paper napkins with holly designs will be appropriate for your Christmas table.

JEWELRY

Our jewelry showcase contains a lot of fine goods at low prices. There are scarf pins, rings for young and old, fobs, cuff buttons, belt buckles, beauty pins and watches. Look our stock over and see if there is not something there that will just suit one of your friends.

SWEATER COATS

We have just received a new lot of sweater coats for ladies and gentlemen. Nothing could be more appropriate for young people. And don't forget that we keep umbrellas, always a useful present.

HOLIDAY SUSPENDERS

Have you noticed those suspenders put up in attractive Christmas boxes? They are beauties and cost from 25 cents to \$1.50. We also have a fine line of 25 cent neckties that will please the men and boys.

THAT TOY COUNTER

Our toy counter is the greatest thing of the kind ever seen in Sierra Madre. There are tops, wagons, carts drums, engines and cars, horns, watches, beads, jumping-jacks, animals, Noah's arks, blocks and watches. Makes the children happy to look at them.

DOLLS IN DEMAND

We have sold so many dolls we could hardly unpack them fast enough at times. We have them at all prices and of rubber, iron, and wax, dressed and undressed. The children are interested, too, in the dishes, beds, stoves, and other things that will make dolly comfortable. You cannot invest your money more wisely for the children than in dolls and doll toys.

CHRISTMAS POST CARDS

We will sell you the sort of post cards for which you pay a nickel elsewhere at 1 cent. They are nice to enclose with gifts or to use for place cards.

DISHES AND GLASSWARE

We have just received a big lot of fancy dishes of all kinds, plates, vases, fruit dishes, cups and saucers, etc. Also glass water sets, and other pretty things.

RIBBONS

You will want holly ribbons for tying up gifts. We have them in several widths. We also have a fine, large assortment of ribbons in all widths and colors at low prices.

HANDKERCHIEFS

Our stock of handkerchiefs got low just in time so we could lay in a choice new line for the holiday trade. We offer you fine values for men, women and children.

O. K. CASH DEPARTMENT STORE

Electricity is Always Ready

☞ For any purpose you need only to close the switch and your lights are on, your iron is hot or your motor starts.

☞ It needs no attention and a simple turn of the switch shuts it off.

☞ If you are not enjoying these benefits, see

The Edison Electric Co.

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Contractor and Builder STRUCTURAL ENGINEER

Plans executed and estimates furnished for any class of work

F. H. JEWELL

Laurel Ave., East of Mountain Trail Phone, Red 54

EVOLUTION OF THE STARS

(Continued From 5th Page.)

the lid of the boxes show the number of cards contained.

I now maintain that on an average the stars of the first box are nearer than those in the second; they in their turn are nearer on an average than those in the third, and so on. That is: I maintain that on an average the brightest stars must be nearer than the fainter stars. This must be so on much the same principle on which, on the mountain, we judge that those distant tops are farthest away on which the trees look smallest. But you need not trust to that principle. For, as I mentioned a moment ago, we are able to find out by actual measurement what is the average distance of any fairly numerous group of stars, say all of the same magnitude. Still, of course, our arrangement helps us very little, for many a star in our boxes, as we will see presently, may have a distance a hundred and more times greater or as much smaller than the average distance inscribed on its box.

But we may push our arrangement further: Take, for instance, the 14F6 stars of the fifth magnitude. I redistribute these over a series of new boxes according to the amount of proper motion. The stars with a motion smaller than 1 second per century have been put in the first box; the average motion of these stars is 0sec.5—ninety of our stars have this motion. Both the amount of the motion and the number of stars in the box have been inscribed on the lid. The little arrow indicates that the number 0sec.5 represents a motion. The number 5, surrounded by a star, refers to the fact that we have exclusively to do with stars of the fifth apparent magnitude. The second box contains the stars with p.m. between 1 sec. and 2 sec. per century, etc. For the larger motions the limits have been taken somewhat wider. In the eleventh box the motions between 10 sec. and 15 sec. are contained; in the thirteenth those between 20 sec. and 30 sec., and so on.

Here again we will expect that, the smaller the apparent motion, the greater will be the distance, on the same principle as the man standing on the sea-shore concludes that the ships sailing apparently with the smallest velocity, must, on the whole, be the farthest away.

This expectation is perfectly confirmed, when here again we come to determine the average distance. We find these average distances, expressed in the number of years it takes light, emitted by these stars to reach us. They are inscribed on the lid of our boxes after the letters M.D. standing for mean distance.

There is a way, but you will not be astonished to find that the certainty of our conclusions diminishes as we get deeper into the abysses of space. I will not tire out your patience, however, by going into this matter beyond saying that, as we know the total number of stars of each magnitude and the number already contained in our shells below 2000 light years, we know also the number remaining to be distributed over further shells. These numbers together with a very plausible supposition enables us to at least localize the stars roughly in the further shells.

It may seem that we are at the end of our problem, for we have found what we went out to find: the mixture-law and the density at various distances from the sky. In what precedes, however, one assumption has been made which, if it is contrary to nature, may change part of our conclusion very seriously. To see what that is we have to come back a last time to figure four. The distribution of the stars of the apparent magnitude inscribed at the top, as shown by this figure, is substantially unobjectionable, at least if we disregard small uncertainties due to the inaccuracy of our data. But what is objectionable in the figure is the absolute magnitude inscribed.

The lineal dimensions of two consecutive shells are in the proportion of about 1 to 1.56; consequently we assumed that, if we remove a star from one shell to the next more distant one, its light would diminish, according to a well known rule in the ratio of 1x1 to 1.56x1.56 that is the ratio of 1 to 2.5. That is, that the light would diminish by just one magnitude. In fact the dimensions of the shells were chosen as they were, just in order that we might get this change of just one magnitude in passing from one shell to another. It is only because of this choice that we get the regular sequence of numbers if we go downward in one and the same column.

Now, however, this rule is only true if space is perfectly transparent. If space is not perfectly transparent, if it is slightly foggy, then, of course, if we remove a star to a further distance its brilliancy, as seen by ourselves, will decrease quicker than it would if space were transparent. Therefore, it will change more than one magnitude in passing from one shell to the next one. Now this will change little in our result for the mixtures, for all the absolute magnitudes in a horizontal row will be changed by the same amount. In row five for instance the proportions between the number of stars of consecutive magnitudes will still be as 8:18, 59:140, only instead of representing the proportion in the numbers of the stars of absolute magnitude—4.5, 5.5, 6.5, etc. They will now represent the proportion of the stars 4.5 plus small quant., 5.5 plus small quant., which matters relatively little.

The law of the thinning out of the stars as we recede further and further from the earth, will, however, be greatly altered. It would require but a small imperfection in the transparency of space to account for the whole of the thinning out, found a moment ago. I mean this: It might well be that there exists no thinning out of the stars at all and that what we found as such is only and simply the effect of this absorption of light in space. There then lies the great and last obstacle in our way of determining the real structure of our stellar system. Is there no way of ascertaining whether there is such an absorption and of determining its amount?

(Continued in Next Issue.)

TO DISCUSS TREES.

All Central avenue property owners are requested to meet at the City Hall Saturday evening, December 12th, at 7:30 to discuss uniform tree planting along that avenue and to reach an agreement if possible on the plan to be followed.

(Signed) J. J. HART,
Chairman of Committee.

Sierra Madre postcards, 1c. each at Doucet's.